

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 0321]

MARCH 2021

Sub. Code: 2063

(SEPTEMBER 2020 EXAM SESSION)

B. PHARMACY DEGREE EXAMINATION

PCI Regulation SEMESTER – VI

PAPER III – HERBAL DRUG TECHNOLOGY

Q.P. Code : 562063

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. Explain the infrastructural and general requirements of herbal drug industry as per Good Manufacturing Practice.
2. Discuss the role of Good Agricultural practice in cultivation of medicinal plants.
3. Explain in detail about the herb – drug and herb – food interactions.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Processing of herbal raw material.
2. Preparation and Standardization of Lehya.
3. Basic principles of Siddha system of medicine.
4. Classification of Nutraceuticals with examples.
5. Health benefits of Ginseng.
6. Phytosomes.
7. Stability testing of herbal drugs.
8. Case study of NEEM.
9. Schedule-Z of Drugs and Cosmetic Act for Ayurveda, Siddha, Unani drugs.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Define Herb.
2. What are primary and secondary metabolites?
3. Explain Panchamahabhuta in Ayurveda.
4. Give the sources and two health benefits of ALFA ALFA.
5. Write the possible side effects of Ephedra.
6. Mention two herbs used in Oral Hygiene products.
7. Give the examples for diluents of natural origin.
8. Define Intellectual Property Rights.
9. Give any two objectives of Schedule-T.
10. Enlist the types of Nutraceutical products available in market.

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PCI Regulation 2017 - SEMESTER - VI
PAPER III – HERBAL DRUG TECHNOLOGY
Q.P. Code : 562063

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Explain in detail the WHO guidelines for the assessment of herbal drugs.
2. Explain the health benefits and role of Nutraceuticals in treating diabetes.
3. a) Explain the advantages and disadvantages of herbal excipients.
b) Write briefly on preparation and standardization of Arista.

II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)

1. Basic principles of Homeopathic system of Medicine.
2. Honey as health food.
3. Possible side effects and interactions of Ginkobiloba.
4. Natural sweetners.
5. Preparation of Herbal Tablets.
6. ICH guidelines for assessment of herbal drugs.
7. Components of Good Manufacturing Practice as per Schedule-T.
8. Skin care products.
9. Documents and Records of herbal drug industry as per Good Manufacturing Practice.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

1. Define the term Breeder's right.
2. What is Bioprospecting?
3. Define herbal drug preparation.
4. Write sources and two health benefits of chicory.
5. Write the health benefits of Amla.
6. What is Kava – Kava?
7. Give the examples for Natural Binders.
8. Give the drug interactions of Garlic.
9. Write briefly on natural perfumes with examples.
10. Write briefly on Bleaching agents.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 0122]

**JANUARY 2022
(MARCH 2021 EXAM SESSION)**

Sub. Code: 2063

B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)

PCI Regulation 2017 – SEMESTER VI

PAPER III – HERBAL DRUG TECHNOLOGY

Q.P. Code : 562063

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Discuss in detail the plant based industries and institutions involved in work on medicinal and aromatic plants in India.
2. Explain the method of preparation and standardization of Churna.
3. Give a detail account on raw materials of herbal origin used in hair care products.

II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)

1. Identification and authentication of herbal materials.
2. Ashwagandha as health food.
3. Hypericum - side effects and interactions.
4. Natural colourants.
5. Herbal syrups.
6. Case study of Curcuma.
7. Ayurvedic, Siddha, Unani Drugs Technical Advisory Board
8. Present scope and future prospects of Herbal Drug Industry in India.
9. Importance of organic farming.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

1. Define herbal Medicine.
2. What are bioinsecticides? Give two examples.
3. Explain Trigunas in Ayurveda.
4. What is law of similars?
5. Write briefly on functional foods.
6. Write the sources and health benefits of Fenugreek.
7. Mention two herbs used in the treatment of irritable bowel syndrome.
8. Write briefly on Farmers right.
9. What is Biopiracy?
10. What are viscosity builders?

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[BPHARM 0522]

MAY 2022

Sub. Code: 2063

(SEPTEMBER 2021 EXAM SESSION)

B. PHARMACY DEGREE EXAMINATION

PCI Regulation SEMESTER - VI

PAPER III – HERBAL DRUG TECHNOLOGY

Q.P. Code : 562063

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Explain Good Agriculture practices for Medicinal Plants.
2. What are the present and future scopes of Herbal Drug Industries in India.
3. Write in detail about ASU-DTAB and ASU- DCC

II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)

1. Explain Pest management in Medicinal plants.
2. Explain preparation and standardization of Asavas and Aristas.
3. Give the benefits and role of Nutraceuticals in Diabetes.
4. Write note on Herbal Skin care products.
5. What is Biopiracy? Explain patent case study of Curcuma.
6. Explain Schedule T in detail.
7. Write note on Industry – academia inter relation.
8. Differentiate with examples between Organic farming & Biodynamic agriculture.
9. Explain Garlic & Honey as Health food.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

1. Define the term Herbal Medicine & Herbal Medicinal Products.
2. Write various types of Extracts & their Drying methods.
3. Write the side effect and interaction of Ginkobiloba.
4. The role of Alfaalfa as nutraceuticals.
5. Write ideal properties of Hair colours.
6. Farmer's Right.
7. IPR
8. Homeopathy.
9. Name some fixed oil used in herbal cosmetics.
10. Phytosomes.

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[BPHARM 1022]

**OCTOBER 2022
(MARCH 2022 EXAM SESSION)**

Sub. Code: 2063

B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)

PCI Regulation 2017 – SEMESTER VI

PAPER III – HERBAL DRUG TECHNOLOGY

Q.P. Code : 562063

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Describe the WHO and ICH Guidelines for assessment of Herbal Drugs.
2. Define and classify Herbal Excipients with examples. Describe the role excipients in cosmetics.
3. Explain Ayurvedic medicine system and their standardization.

II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)

1. Explain Herbs and their Importance.
2. The role of nutraceuticals in healthcare management.
3. The side effect and interaction of Pepper and Ephedra.
4. The general herbal ingredients of Herbal Shampoos.
5. Stability testing of Herbal drugs.
6. Explain documentation and record maintenance as per Schedule T.
7. Write the list of Indian herbs patents.
8. Note on bleaching agent in herbal cosmetics.
9. The health benefits and role of nutraceuticals in Cancer.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

1. Write the difference between conventional and Organic Farming.
2. Give some examples of plants act as Pesticides.
3. Health benefits of Ashwagandha.
4. The side effect and interaction of Kava Kava.
5. Define binders. Write the classification of binders.
6. Give two examples and role of herbs in dental care.
7. Define the term Patent and IPR.
8. Write similarities between plant Breeder's right and Farmer's right.
9. Mention the evaluation parameters of herbal tablets.
10. Define churna and write the types of churna.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[B.PHARM 0323]

**MARCH 2023
(SEPTEMBER 2022 EXAM SESSION)**

Sub. Code: 2063

**B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)
PCI Regulation 2017 – SEMESTER VI
PAPER III – HERBAL DRUG TECHNOLOGY**

Q.P. Code: 562063

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Define nutraceuticals. Write the classification of nutraceuticals. Describe in detail any one food used as nutraceuticals.
2. Write about regulatory aspects of Pharmaceuticals and bulk drug manufacturing.
3. Explain various interactions with respect to Herbs – Drugs and Herbs – Food.

II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)

1. Write about Organic farming.
2. The health benefits and role of nutraceuticals in CVS Diseases.
3. Herbal Tablets.
4. Give quality control test for Hair Care Products.
5. The patent case study of Neem.
6. Explain objective and importance of GMP.
7. Explain Breeders right.
8. Write note on Phytosomes.
9. Define Biopesticides. Classify with examples.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

1. Write the classification of chemical fertilizers with examples.
2. Differentiate the prebiotics from probiotics.
3. Chicory.
4. The role of Fenugreek as nutraceuticals.
5. Classification of Natural colourants.
6. Patent.
7. Biopiracy.
8. Components of GMP.
9. Bhasmas.
10. Name some conventional Herbal formulations.

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[B.PHARM 0823]

**AUGUST 2023
(MARCH 2023 EXAM SESSION)**

Sub. Code: 2063

**B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)
PCI Regulation 2017 – SEMESTER VI
PAPER III – HERBAL DRUG TECHNOLOGY**

Q.P. Code: 562063

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Mention various Ayurvedic formulations and elaborate the formulation and standardisation of Arista and Asava.
2. Write a detailed note on patenting of traditional knowledge and natural products with examples.
3. Write different herbal liquid formulations. Give a detailed account on preparation standardization and preservation of herbal syrups.

II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)

1. Explain about infrastructural requirements of herbal drug industry as per Schedule T.
2. Write different methods for processing of herbal raw materials and explain storage of herbal drugs with examples.
3. Discuss the interactions and side effects of Pepper and Ginseng.
4. Write a note on stability testing of herbal drugs.
5. Give a note on herbal skin care cosmetics.
6. Write a note on general aspects, market growth of nutraceuticals.
7. Give a brief account on plant-based industries and institutions in India.
8. Enumerate different pest control methods and explain biological control method.
9. Give the source, chemical constituents and uses of any two natural gums.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

1. Mention the significance of Phytosomes.
2. Give examples of herbal excipients used as binders.
3. What are the ideal requirements of bhasma?
4. What are probiotics? Give examples.
5. Define herbal medicinal product and herbal drug preparation.
6. What is the basic principle involved in homeopathy?
7. Write the Characteristics of Hair dyes.
8. What do you mean by farmer's right and breeder's right?
9. Name any two herbal antioxidants and give their biological source.
10. Name the components of GMP.

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[B.PHARM 1223]

**DECEMBER 2023
(SEPTEMBER 2023 EXAM SESSION)**

Sub. Code: 2063

B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)

PCI Regulation 2017 – SEMESTER VI

PAPER III – HERBAL DRUG TECHNOLOGY

Q.P. Code: 562063

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. Explain Good agricultural practices in cultivation of medicinal plants including organic farming.
2. Write in detailed account on WHO guidelines for assessment of herbal drug.
3. Explain the principle, diagnosis and methods of treatment in Siddha, Ayurveda and Homoeopathy system of Medicine.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. What are Nutraceuticals? Discuss on the present market scenario and scope of nutraceuticals.
2. What is Biopiracy? Explain patent case study of Curcuma.
3. Enlist the various Bioinsecticides and explain any two in detail.
4. Give the general herbal ingredients of herbal shampoo.
5. What are the objectives of GMP? Enumerate the components of GMP.
6. Describe the possible side effects and interactions of hypericum and kava-kava.
7. Explain Schedule Z of Drugs & Cosmetics act for ASU drugs.
8. Explain the present scope and future prospects of herbal drug industry.
9. Write a short note on colorants and sweeteners as herbal excipients and their significance.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Define Herb and Herbal medicines.
2. What is meant by Farmers right?
3. Name any two natural bleaching agents with biological source.
4. Health benefits of Ginger and Chicory.
5. What are Asava and Arista?
6. Give the source and chemical constituents of any one herb used as perfume.
7. Define bio-fertilizers with examples.
8. Enlist two nutraceuticals used in gastrointestinal diseases with their active constituents.
9. What is master formula record?
10. Mention the evaluation parameters for herbal syrups.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[B.PHARM 0524]

MAY 2024

Sub. Code: 2063

B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)

PCI Regulation 2017 – SEMESTER VI

PAPER III – HERBAL DRUG TECHNOLOGY

Q.P. Code: 562063

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. Explain the health benefits and role of Nutraceuticals in treating irritable bowel syndrome.
2. Discuss in detail the plant based industries and institutions involved in work on medicinal and aromatic plants in India.
3. Define Novel drug delivery system. Write in detail about phytosomes with neat diagram and its application.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Write about standardisation of Arista and Asava with example.
2. Define and classify Nutraceuticals.
3. Discuss the interactions and side effects of Garlic and Kava-Kava.
4. Write a note on Bleaching agent in herbal cosmetics.
5. Write a note on Natural colourants.
6. Discuss about ICH guidelines for the assessment of herbal drugs.
7. Components of Good Manufacturing Practice as per Schedule – T.
8. Write different herbal liquid formulations.
9. What are the ideal requirements of Lehya?

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Classify Mixtures.
2. Define diluents.
3. Define Herbal face packs.
4. Source of Clove oil and Sandalwood oil.
5. Name the Nutraceuticals used for the treatment of Cancer.
6. Name the Tridoshas in Siddha system of medicine.
7. Write the analytical methods of herbal products.
8. Write DTAB regulations.
9. Fenugreek as Health food.
10. Farmer's right.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[B.PHARM 1024]

**OCTOBER 2024
(SEPTEMBER 2024 EXAM SESSION)**

Sub. Code: 2063

B. PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)

PCI Regulation 2017 – SEMESTER VI

PAPER III – HERBAL DRUG TECHNOLOGY

Q.P. Code: 562063

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. Differentiate between nutraceuticals and functional foods. Discuss the health benefits of nutraceuticals in diabetics and GIT disorders.
2. What do you mean by biopesticides. Give suitable examples. Discuss the role of good agricultural practices in cultivation of medicinal herbs.
3. Enumerate the parameters for evaluation of crude drugs as per WHO guidelines. Discuss the schedule Z of Drugs and Cosmetics act for ASU drugs.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. What are polyherbal tablets? Discuss their evaluation parameters.
2. Write a note on herbal-drug and herb-food interactions with examples.
3. Define Herb. Explain the methods for Processing of Herbal raw materials.
4. What are the advantages of patenting natural products? Explain with examples.
5. Explain the basic principles of Siddha and Unani.
6. Write a note on stability testing of herbal drugs.
7. Name the herbs used in skin care preparations. Give the source, uses and significance of Aloe vera and Neem in skin care preparations.
8. Discuss the machinery and equipments required for herbal drug industry as per GMP.
9. Discuss the natural disintegrants used in pharmaceutical formulations with examples.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. What is schedule T?
2. Write the advantages of Bioinsecticides.
3. List out two herbal excipients used as sweeteners with their biological source.
4. Define Bioprospecting.
5. Mention the health benefits of Spirulina.
6. Define “Sodhana” process.
7. List any four plant-based industries in India.
8. Name two natural perfumes with their biological source.
9. What are the sources, active constituents and uses of alfalfa?
10. Define marker compound. Give one example.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[B.PHARM 0325]

MARCH 2025

Sub. Code: 2063

B. PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)

PCI Regulation 2017 – SEMESTER VI

PAPER III – HERBAL DRUG TECHNOLOGY

Q.P. Code: 562063

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. Define Biodynamic agriculture. Explain its advantage and disadvantage.
2. Define and classify natural excipients with examples. Describe the role of excipients in cosmetics.
3. Explain about schedule Z. Write about the documentation and record maintenance as per schedule T.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Discuss on the importance of Phytosomes.
2. Explain Herbs and their Importance.
3. Write about different pest control methods.
4. Write the basic principles involved in Unani System of Medicine with example.
5. Write a note on chemical and biological evaluation of crude drugs.
6. Scope and importance in current trends about nutraceuticals.
7. Write a note on traditional and non-traditional Nutraceuticals.
8. Write about the herbal shampoo and its evaluation.
9. Case study on Turmeric.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Name the types of vayus in Siddha System of Medicine.
2. Write the Principles of organic farming.
3. What are the five elements in Ayurveda?
4. Give some examples of herb-drug interactions.
5. What are probiotics? Give examples.
6. Define Nourishing creams.
7. Write the uses of Spirulina.
8. Breeder's right.
9. Define churna and write the types of churna.
10. Name any four different types of herbal products available in the market.
